APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,232	05/23/2000	Lundy Lewis	APB-022	3633

46141   7590   08/13/2007
LAHIVE & COCKFIELD, LLP/SUN
ONE POST OFFICE SQUARE
BOSTON, MA 02109

EXAMINER
ENGLAND, DAVID E

ART UNIT	PAPER NUMBER
2143	

MAIL DATE	DELIVERY MODE
08/13/2007	PAPER

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PTOL-90A (Rev. 04/07)

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Technology Center 2100

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/577,232
Filing Date: May 23, 2000
Appellant(s): LEWIS, LUNDY

Rick A. Toering Reg. No. 43195
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 04/23/2007 appealing from the Office action mailed

10/23/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Computer Associates Think, Inc. is further pursuing Appeals to the Board of Patent Appeals and Interferences in the cases identified below, each of which also claim priority to U.S. Provisional Patent Application Serial No. 60/135,492.

(1) U.S. Patent Application Serial No. 09/577,225, filed May 23, 2000, entitled "Service Level Management." A Notice of Appeal was filed on April 20, 2007.

(2) U.S. Patent Application Serial No. 09/577,224, filed May 23, 2000, entitled "Method and Apparatus for Reactive and Deliberative Service Level Management (SLM)." Appellant's Brief on Appeal was filed on January 3, 2007.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6233449	Glitho et al.	5-2001
6449603	Hunter	9-2002
6249755	Yemini et al.	6-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis

for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 31, 32, 34 – 36, 38 – 43, 45 – 47, 49 – 51, 53 – 57 and 59 are rejected under 35

U.S.C. 102(e) as being anticipated by Glitho et al. (6233449) (hereinafter Glitho).

As per claim 31, as closely interpreted by the Examiner, Glitho teaches a method of providing

service level management of a business process in connection with a computer network, wherein

the business process is supported by a service operated on the computer network, wherein the

service is supported by at least one network component within the computer network, wherein

the service is to be provided at an agreed upon service level, and wherein a measure of

performance of the service indicates a current service level of the business process, the method

comprising, (e.g., col. 4, lines 10 – 28 & col. 4, line 55 – col. 5, line 40):

measuring a component parameter of the at least one network component, the component

parameter indicating an operational characteristic of the at least one network component, (e.g.,

col. 4, line 55 – col. 5, line 40);

determining a service parameter representative of a measure of performance of the service, the

service parameter having a state used to determine conformity of the service to the agreed upon

service level, (e.g., col. 4, line 65 – col. 5, line 40); and

determining an effect of the measured component parameter on the state of the service

parameter, (e.g., col. 5, lines 12 – 54, *"run multiple simulations"*).

As per claim 32, as closely interpreted by the Examiner, Glitho teaches determining an effect the

component parameter has on the service parameter, the determination comprising one or more

of:

a data mining based process;

a neural network based process;

a machine learning based process;

an iterative dichotomizing third derivative based process;

an algorithm based process, (e.g., col. 4, line 65 – col. 5, line 29, *"calculations to detect"* & col. 7, lines 21 – 45, *"Different types of correlation algorithms..."*); and

a selected statistical based process.

As per claim 34, as closely interpreted by the Examiner, Glitho teaches the service parameter represents one or more of:

a response time of a network resource;

traffic congestion of a selected portion of the network, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40);

availability of a network resource;

reliability of a network resource, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40);

security of a network resource;

performance of a network resource, (e.g. col. 1, line 43 – col. 2, line 29 & col. 4, line 55 – col. 5, line 40); and

configuration of a network resource.

As per claim 35, as closely interpreted by the Examiner, Glitho teaches the network component is associated with a network component monitoring agent of a network management system, (e.g., col. 4, line 65 – col. 5, line 40, *"Action Proposal Agent (APA)"*).

As per claim 36, as closely interpreted by the Examiner, Glitho teaches determining interfaces between the network component and the network component monitoring agent, (e.g., col. 4, line 65 – col. 5, line 40, *"Action Proposal Agent (APA)"* and *"Link performance, Hardware performance, System performance"*).

As per claim 40, as closely interpreted by the Examiner, Glitho teaches storing the plurality of component parameters associated with the one or more network entities in a storage device, (e.g., col. 5, line 41 – col. 6, line 35).

As per claim 41, as closely interpreted by the Examiner, Glitho teaches managing the network based on the state of the service indicated by the service parameter, (e.g., col. 4, line 65 – col. 5, line 40).

As per claim 42, as closely interpreted by the Examiner, Glitho teaches instructing the one or more network entities addressable by the network to take an action based on the state of the service indicated by the service parameter, (e.g., col. 4, line 65 – col. 5, line 40).

As per claim 43, as closely interpreted by the Examiner, Glitho teaches interfacing with a management platform associated with the network to manage the service associated with the network, (e.g., col. 4, line 65 – col. 5, line 48 & col. 5, line 63 – col. 6, line 44).

Claims 38, 39, 45 – 47, 49 – 51, 53 – 57 and 59 are rejected for similar reasons stated above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of
this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject
matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art
to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 33 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glitho

(6233449) in view of Hunter (6449603).

As per claim 33, as closely interpreted by the Examiner, Glitho does not specifically teach

representing an effect of the component parameter on the service parameter, wherein the

representation includes one or more of:

decision tree;

propositional statement;

quantified statement;

weighted listing;

graph.

Hunter teaches representing an effect of the component parameter on the service parameter,

wherein the representation includes one or more of:

decision tree;

propositional statement;

quantified statement;

weighted listing;

graph, (e.g. col. 1, line 9 – col. 2, line 64 & col. 7, line 60 – col. 8, line 48). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to combine Hunter

with Glitho because it would be more efficient for a system to utilize types of algorithms and/or

statistical applications to train a system to predict outcomes of events utilizing what is most

likely to happen, (i.e. statistical data, example choosing a chores of action that happens 90% of

the time rather then the action that happens 10% of the time).

Claim 48 is rejected for similar reasons as stated above.

Claims 37, 44, 52 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Glitho (6233449) in view of Yemini et al. (6249755) (hereinafter Yemini).

As per claim 37, as closely interpreted by the Examiner, Glitho does not specifically teach the

service level management domain comprises a plurality of management applications integrated

into a hierarchical structure having a plurality of layers.

Yemini teaches the service level management domain comprises a plurality of management

applications integrated into a hierarchical structure having a plurality of layers, (e.g. col. 2, lines

6 – 46 & col. 7, lines 8 – 60). It would have been obvious to one of ordinary skill in the art at the

time the invention was conceived to combine Glitho with Yemini because it would be

advantageous for a system to have a type of monitoring agent on more then one layer of the OSI

network model to monitor information that other layers are incapable of monitoring.

Claims 44, 52 and 58 are rejected for similar reasons as stated above.

Response to Arguments

Applicant's arguments filed 07/12/2006 have been fully considered but they are not persuasive.

In the Remarks, Applicant argues in substance that Glitho fails to disclose at least the feature of

"determining an effect of [a] measured component parameter on [a] state of [a] service

parameter, " as set forth in independent claims 31 and 46. The measured component parameter is

indicative of an operational characteristic of at least one network component. The state of the

service parameter is used to determine conformity of a service supported by the service to an

agreed upon service level. Furthermore, Applicant states that Glitho describes a reactive system

for detecting performance degradation/QOS degradation, finding a suspected cause, and

attempting to implement solutions. Where in contrast, the claimed invention relates to a

proactive method that determines an effect of parameters of service-supporting network

components on a service level.

As to the first Remark, Examiner would like to draw the Applicant's attention to the above

remarks they have stated. The actual limitation that is stated is, *"determining an effect of the*

measured component parameter on the state of the service parameter. " The Applicant further

states that the measured component parameter is indicative of an operational characteristic of at

least one network component. Applicant does not state what the parameter or characteristic could

be. Therefore, it is the Examiners interpretation that this part of the claimed invention could be

what is stated in column 4 of Glitho, *"Raw data may come from traffic data 34 or exchange data*

35, and include, for example exchange and cell configuration and performance data, " all of

which can be interpreted as operational characteristics of at least one network component.

Furthermore, Applicant discusses that the state of the service parameter is used to determine

conformity of a service supported by the service to an agreed upon service level. In other words,

the agreed upon QUALITY OF SERVICE. When one sets up a QOS, it is expected that the

network "conform" or at least meet the agreed upon quality of the service that is given to a

network node. Glitho teaches such a limitation as stated in column 7, *"where the performance*

data is analyzed for quality of service at 74, and if a predefined threshold is crossed, or

otherwise interpretation of state of an agreed upon service, *an event may be generated indicating*

that levels of expected QOS have not been reached. " The Applicant further goes to state in the

claim limitation, "determining an effect of the measured component parameter on the state of the

service parameter," which is found later in column 7 and 5 of Glitho. Glitho goes to describe

how the analyzed data causes the system to "pin-point a root cause." This can be interpreted as

an "effect" from the parameter on the state. It is very apparent that the prior art reads on the

broad limitations of claims.

Furthermore, Examiner does not see how the claimed invention is "proactive" when all the

applicant does in the independent claim is take measurements of network components, determine

a state used to "determine a conformity" and then "determine an effect" using the two. There is

nothing that would suggest that the claimed invention is any different from the prior art.

All other Remarks can be addressed by the above argument.

Applicant's arguments, see Remarks pages 10 and 11, filed 07/12/2006, with respect to Claim

Objections and 112 Rejections have been fully considered and are persuasive. The Objections

and 112 Rejections have been withdrawn.

(10) Response to Argument

In the Arguments, Appellant argues in substance that Glitho fails to disclose at least the

features of "determining a service parameter representative of a measure of performance of the

service," or "determining an effect of the measured component parameter on the state of the

service parameter," where the state may be "used to determine conformity of the service to the

agreed upon service level," as recited in claim 31.

As to the First Argument, the limitation of "determining a service parameter representative of a

measure of performance of the service" can be interpreted as determining or monitoring

bandwidth or any service in a Quality of Service (QoS) system as is taught in Glitho, column 4,

line 55 et seq., *"The OMCP uses the PQSM function to monitor performance and QoS in the*

network. Performance thresholds are defined (manually and/or automatically), and

performance is presented to assess the current situation and current utilization level in the

network. The PQSM function 36 determines whether there is a problem with the QoS. If there is

no degradation in the QoS <u>exceeding any threshold</u>, the data is passed directly from the PQSM

function to an Action Proposal Agent (APA) 38. If there is QoS degradation, the PQSM function

sends the data to the TS 37. The TS performs calculations to detect the cause of the degradation

in the QoS. In addition to the input from the performance monitoring function, the TS considers

the configuration of the system, all of the current performance measurements, trend calculations,

and fault states. The OMCP interfaces with external systems 43 utilizing various transport

networks such as PDH, SS7, etc. The external systems also provide input to the APA to assist in

determining faults and corrective actions. " It is also well known in the art that if there is a

threshold that would mean a measurement of some sort would have to be determined either by

measuring or calculations of a measurement.

As for, "determining an effect of the measured component parameter on the state of the service

parameter," the prior art as quoted above determines a degradation in the service, *"The PQSM*

function 36 determines whether there is a problem with the QoS. If there is no degradation in the

QoS <u>exceeding any threshold</u>, the data is passed directly from the PQSM function to an Action

Proposal Agent (APA) 38. If there is QoS degradation, the PQSM function sends the data to the

TS 37. The TS performs calculations to detect the cause of the degradation in the QoS. " The

effect that the parameter has on the state of the service is that the quality agreed upon is not

being met and the effect will cause the prior art of Glitho do determine what it is and how to fix

the problem so that the system will be up to the agreed upon threshold, (e.g., col. 5, lines 12 et

seq., *"The suspected cause of the QoS degradation is then sent from the TS 37 to the APA 38.*

The APA analyzes the suspected cause of the problem, and determines suggested corrective

actions which are then sent to the NMS 21. The suggested corrective actions may include, but

are not limited to proposals for:

Link performance (e.g., <u>more/fewer links needed</u>);

Cell performance (e.g., change parameter settings, change frequencies);

Hardware performance (e.g., more hardware needed, efficiency of hardware utilization,

hardware out of order);

In a simulation block 39, the NMS may run multiple simulations to predict what the results

would be if the suggested corrective actions are executed in the network. If the NMS's

predictions are unacceptable, feedback is sent to the APA 38 which modifies its suggested

corrective actions based on the feedback from the NMS. If the NMS's predictions are

acceptable, the suggested corrective actions are then executed by an execution function 41,

either manually or automatically. Areas suitable for automatic execution include frequency

reallocations, temporary traffic load sharing, etc. Following execution of the suggested actions,

data is collected regarding the actual results of the actions in the network. A feedback function

42 in the NMS 21 then sends feedback to the APA 38 in the OMCP 31 regarding the actual

results of executing the suggested corrective actions. <u>The feedback includes trend analyses and a</u>

<u>comparison of before and after results, both in the changed area and for total system</u>

<u>performance</u>. If the results are not acceptable, the APA 38 may send additional suggested

corrective actions to the NMS 21, utilizing the experience acquired from the results of the first

actions. If the problem is corrected, then the OMCP passes NE reports directly to the NMS since

no corrective action is required. ").

As for, where the state may be "used to determine conformity of the service to the agreed upon service level," That is what Quality of Service monitors, a conformity to an agreed upon service level. As stated above, if a degradation in service is determined to go below a threshold, that would mean that the "conformity" of the agreed upon service level is not being met and therefore the prior art teaches fixing that level to the agreed upon service level, which is the threshold. The state could also be interpreted as above the threshold, the state is the agreed upon service, below the threshold, the state isn't at the agreed upon service, and a determination is needed to find the problem and fix it as taught in the prior art.

In the Arguments, the Appellant argues in substance that Glitho and Hunter either alone or in combination fail to disclose or teach each and every feature of claims 33 and 48. Furthermore, Glitho and Yemeni either alone or in combination fail to disclose or teach each and every feature of claims 37, 44, 52 and 58.

As to the last Argument, Appellant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.
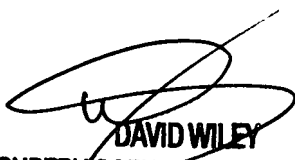
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

DE

Conferees:

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100